

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (currently amended): ~~A bandpass filter for~~ An apparatus for filtering an optical data signal, comprising a bandpass filter including a transmission curve (T)~~characteristic~~ having a passband at a mid-frequency (F0) for a bandwidth (ΔF), wherein the transmission curve (T) has an attenuation range which covers the mid-frequency (F0).

Claim 2. (currently amended): ~~A bandpass filter~~ The apparatus as claimed in claim 1, wherein the attenuation range is narrowband in a region of the mid-frequency (F0).

Claim 3. (currently amended): The apparatus ~~A bandpass filter~~ as claimed in claim 1, wherein the attenuation range is one of U-shaped and V-shaped.

Claim 4. (currently amended): The apparatus ~~A bandpass filter~~ as claimed in claim 2, wherein the attenuation range contains a combination of (a) a U-shaped profile and a V-shaped profile away from the mid-frequency (F0), and (b) a narrowband profile at the mid-frequency (F0).

Claim 5. (currently amended): The apparatus ~~A bandpass filter~~ as claimed in claim 1, wherein the transmission curve (T) having the mid-frequency (F0) is represented by a normalized transfer function $H(f)$ as follows:

$$H(f) = c_1 * e^{-c_2 * (f - F_0)^2} + \sum_{k=1}^L c_k * e^{-c_k * (f - F_0 + (-1)^k c_k)^2} + c_L * \delta(f - F_0)$$

$$H(f) = c_1 * e^{-c_2 * (f - F_0)^2} + \sum_{k=1}^2 c_3 * e^{-(c_4 * (f - F_0 + (-1)^k * c_5))^2} + c_6 * \delta(f - F_0)$$

where (c_1, c_2, \dots, c_6) are setting coefficients and $\delta(f)$ denotes a function where $\delta(f = F_0) = 1$ and $\delta(f \neq F_0) = 0$.

Claim 6. (withdrawn): A bandpass filter as claimed in claim 1, wherein the bandpass filter is a high-order IIR filter having a constant phase profile over the bandwidth (Δf).

Claim 7. (withdrawn): A bandpass filter as claimed in claim 1, wherein the optical data signal is provided as a channel in a WDM signal.

Claim 8. (withdrawn): A filter arrangement for optical data signals, comprising a plurality of bandpass filters for a respective plurality of optical data signals, wherein each bandpass filter comprises a transmission curve (T) having a pass band at a mid-frequency (F_0) for a bandwidth (Δf), with the transmission curve (T) having an attenuation range which covers the mid-frequency (F_0), and wherein the pass bands of the plurality of bandpass filters are arranged next to one another spectrally.

Claim 9. (withdrawn): A filter arrangement for optical data signals as claimed in claim 8, wherein a frequency band lying between two pass bands serves as a reflector for channel signals occurring therein.

Claim 10. (currently amended): A method for increasing a sensitivity of reception of an optical data signal at an optical carrier frequency, the method comprising the steps of:

providing a bandpass filter for the optical data signal, wherein the bandpass filter has a transmission curve (~~T~~) having a pass band at a mid-frequency (~~F~~₀) for a bandwidth (~~Δ~~_f), and with the transmission curve (~~T~~) having an attenuation range which covers the mid-frequency (~~F~~₀), and the mid-frequency being at the carrier frequency; and

providing that at least the optical data signal upstream of optical reception pass through the bandpass filter.